COMMITMENT & INTEGRITY
DRIVE RESULTS

40 Shattuck Road | Suite 110
Andover, Massachusetts 01810
www.woodardcurran.com

T 866.702.6371
T 978.557.8150
F 978.557.7948

September 17, 2013

Mayor Dean Mazzarella
City of Leominster
City Hall
25 West Street
Leominster, Massachusetts 01453

RE: Live! Casino Massachusetts – Proposed Gaming Facility
Initial Peer Review Services

Dear Mayor Mazzarella:

PPE Casino Resorts MA, LLC has proposed to develop a 16-acre site for the Live! Casino Massachusetts gaming facility located at 42 Jungle Road in Leominster. The proposed casino is a slots facility that will include 111,360 square feet of gaming space; 1,250 slot machines, and associated dining and entertainment venues. **Attachment 1** includes a site locus map that shows the proposed project location.

In accordance with our August 28, 2013 proposal for Professional Engineering and Environmental Services for the Live! Casino Massachusetts proposed gaming facility, this letter summarizes our initial peer review of the project. Our peer review was related to civil/site and traffic aspects of the project. Our assessment included the following activities:

- Reviewed the Environmental Project Notification (ENF) prepared by Stantec dated July 31, 2013. The ENF was filed under the Massachusetts Environmental Policy Act (MEPA). We also attended the MEPA site walk held on August 13, 2013.
- Discussed the proposed project with the following City departments to summarize their comments: Department of Public Works, Conservation Commission, Planning & Development, and Health Department.
- Reviewed the proposed Traffic Impact Study (TIS) prepared by Stantec dated August 15, 2013.
- Discussed the proposed project and questions/concerns with Stantec.

SUMMARY OF PERMITTING REQUIREMENTS

The information provided in the ENF and TIS is preliminary and conceptual in nature. Detailed design drawings and technical specifications are not available for our review at this phase of the project. These detailed documents will be developed to support the project permitting and construction phases of the process. As the project proceeds thru the federal, state, and local permitting process, the City will have multiple future opportunities to conduct detailed reviews of this project. **Table 1** provides a list of the local permits that the proposed project will require.

Table 1: List of Local Permits

City Department	Permit and Description
Department of Public Works	Water Sewer Clearance Plan – PE stamped plan sets; water and sewer fees are developed based on verified flowrates.
	Trench Permit – required for excavation activity to verify excavator is licensed and directly responsible for excavation work and safety.
	Road Opening Permit – required for installing roadway utilities.
Conservation Commission	Massachusetts Wetlands Protection Notice of Intent (NOI) and Order of Conditions – required for disturbance within wetlands or 100-ft buffer.
Planning & Development	Site Plan Application – required for a new use with ten (10) or more new parking spaces.
Building Department	Building Permit – required for new building construction.
Health Department	Food Establishment Permit – required for food establishments to sell food to the public.
	Common Victualler License (annual license) – required for food service establishments with capabilities of cooking, preparing, and serving food to the public.
	Grease Trap Permit – restaurant kitchen facilities are required to install grease traps of sufficient size to pretreat fats, oils, and grease prior to discharging to the wastewater system.

Note: The Zoning Board of Appeals granted the Special Permit to Live! Casino on August 21, 2013.

In addition to the local permits, the project will also require state and federal permits listed in **Table 2**:

Table 2: List of State and Federal Permits

Category	Permits
State	• Environmental Impact Report Determination of Adequacy from MEPA • Gaming License from Massachusetts Gaming Commission • Sewer Connection Permit from Massachusetts Environmental Protection • Vehicular Access Permit from Massachusetts Department of Transportation
Federal	• National Pollution Discharge Elimination System Construction General Permit

DISCUSSIONS WITH LOCAL CITY DEPARTMENTS

Given that drawings and specifications are not yet available for our review, Woodard & Curran met with representatives of the key City permitting departments to discuss the proposed project and to identify any general concerns about project permitting or development. Below are summaries of our conversations with the Department of Public Works, Conservation Commission, Planning & Development, and Health Department.

Department of Public Works

Woodard & Curran met with John Roseberry and Ray Racine on September 9, 2013 and Roger Brooks on September 11, 2103 to review DPW concerns with the proposed project. They indicated that a detailed review for potential impacts and proposed mitigation measures to address impacts will be required to be conducted by the project proponent as part of the Site Plan approval process. However, based on their current understanding of the project the following general comments were provided:

- Drainage Utilities
    - As part of the proposed project, existing and new catch basins proposed for Jungle Road and adjacent to the project property should have hoods installed to prevent pollutants and debris from flowing out of the catch basins.
    - As part of the proposed project, a new detention basin located on vacant land at the southwest side of the Old Mill Road and Jungle Road intersection will likely be required. A portion of the existing drainage system on Jungle Road is likely insufficient to handle drainage runoff allowing stormwater to flow over a small section of Jungle Road. A plan of the proposed detention basin and associated drainage infrastructure will be required for future permitting.
- Water Utilities
    - Based on the proposed project flowrate of 28,513 gallons per day (gpd) stated in the ENF, the existing 16-inch waterline adjacent to the proposed project site on Jungle Road will likely have sufficient pressure and capacity. This 16-inch line is connected to the Southeast Wellfields that were upgraded as part of the Notown Project.
    - Woodard & Curran reviewed the 16-inch line adjacent to the proposed project and found no foreseen hydraulic or environmental issues based on the proposed project flowrate of 28,513 gpd and proposed location:
        - From a hydraulic perspective, the current 16-inch line can meet the proposed project's water demand and fire flow requirements for the area. Also, the casino's additional flowrate of 28,513 gpd represents less than a 0.8% increase in average consumption when compared to the current average day demand of 3.73 million gallons per day (MGD) and is below Leominster's permitted water volume of 4.94 MGD. However, Woodard & Curran recommends a fire flow test as part of the City permitting process.
        - From an environmental perspective, there are no foreseen issues regarding the potential of the project to impact the environmental quality of the wells. The project's wastewater flows will be transported and treated by the City's wastewater system, stormwater best management practices will be required to be implemented to control stormwater runoff from the site, and the site is located approximately 2,500 feet from the nearest three wells for the Southeast Wellfields.

- Sewer Utilities
  - Based on the proposed project flowrate of 28,513 gpd stated in the ENF, an approximate 1,500 linear foot extension of the existing 12-inch sewer line located on Jungle Road should be sufficient. Live! Casino will need to verify with Veolia if the existing pump station that the existing 12-inch sewer line feeds into has sufficient capacity or will require upgrades.
  - In addition to the sewer fees listed in the City Ordinance, Chapter 21 – Water and Sewers, Live! Casino will need to conduct inflow and infiltration work. Leominster is subject to a Massachusetts Department of Environmental Protection (MassDEP) Administrative Consent Order that requires proposed sewer connections to remove infiltration and inflow (I/I) in the City's wastewater system equivalent to four times the sewage design flow. For example, if the sewer design flowrate is 28,513 gpd, Live! Casino will be required to conduct rehabilitation of the existing City's sewer system to remove 114,052 gpd of I/I.
- Water & Sewer Flowrates
  - The ENF states a proposed water and sewer flowrate of 28,513 gpd. However, no backup calculations were provided that verify the flowrate. As part of the project, Live! Casino will need to provide flowrate calculations and standards used to determine capacity.

Conservation Commission and Planning & Development

Woodard & Curran met with Joanne DiNardo and Kate Griffin-Brooks on September 11, 2013 to review wetland and planning concerns with the proposed project. The following comments were provided during that meeting.

- The project will require a Notice of Intent and Order of Conditions under the Massachusetts Wetlands Act. In addition, the local stormwater regulations (close to City adoption) will apply to the project.
- Leominster has adopted the Stretch Energy Code under Appendix 115.AA of the Massachusetts Building Code. The Stretch Energy Code is applicable to this project with the goal of achieving a 20 percent improvement in building energy performance.
- Live! Casino has indicated that the casino will be LEED certified. The green components, number of points, level of certification, and public education component will need to be identified and presented.
- A public education component for the wetlands located on the property should be included as part of the project. This may include a sign or kiosk that describes the importance and function of the wetlands.
- The Conservation Commission will require that recreational opportunities be investigated and identified. For instance, this may include implementing a handicap accessible hiking trail that connects to the adjacent forested area for public use.
- Plantings on the property shall include native and non-invasive species.
- Stormwater best management practices implemented that include porous pavement will need to be properly maintained.
- A snow removal storage plan will be required as part of Site Plan review.

Health Department

Woodard & Curran met with Christopher Knuth on September 11, 2013 to review health concerns with the proposed project. The following comment was provided:

- The individual resident located at 21 Jungle Road and the Liberty Commons condominium complex located on Old Mill Road are most likely to be temporarily impacted by construction related activities that include traffic and noise. Also, these two properties may also be impacted in the long term with traffic, noise, and light once the casino is operational.

ENVIRONMENTAL NOTIFICATION FORM (ENF) REVIEW

Woodard & Curran attended the MEPA site walk on August 13, 2013 and reviewed the ENF provided by Stantec. Live! Casino submitted an ENF for MEPA's review on July 31, 2013. Based upon their review, MEPA issued a Secretary Certificate on September 6, 2013, provided as **Attachment 2**.

The Certificate requires a mandatory Environmental Impact Report (EIR) for the next phase of MEPA's review because the casino will generate 3,000 or more average day trips of traffic and will create five or more acres of new impervious area. The scope of work for the EIR requires a detailed evaluation of the following categories of scope-of-work items: Alternatives Analysis, Greenhouse Gas Emissions, Air Quality, Traffic and Transportation, Wetlands/Drainage, Water Supply, Wastewater, Hazardous Waste, Construction Period Impacts, and Mitigation. If this project moves forward, the applicant will need to fully address each of MEPA's comments as outlined in their September 6, 2013 certificate in a Draft, and then Final, EIR.

In addition to the comments identified by MEPA, Woodard & Curran has provided the following independent comments listed below based on our review of the ENF.

- Historical/Archeological: The ENF submittal included a copy of the Project Notification Form (PNF) submitted to the Massachusetts Historical Commission (MHC) to verify no historical or archaeological impacts. However, no formal verification from the MHC was provided in the ENF. Woodard & Curran requested and Stantec provided a copy of MHC's confirmation that the proposed project is unlikely to affect significant historic or archeological resources. This confirmation is provided as **Attachment 3**. No further action is required.
- Project Size: Based on review of the impervious area calculations, we determined that the additional acres of impervious area that the project will create is 8.8 (not 8.3) acres and the total acres of impervious area is 11.2 (not 10.7) acres. Although this increase in impervious area does not trigger additional MEPA requirements, as the project already exceeds the five acre threshold for an increase in impervious area, Live! Casino should verify the additional acres of imperious area that the project will create.
- Building Demolition: As part of the proposed project, an existing residential house will be demolished. The ENF was checked as "No" for asbestos containing material but no backup information was provided. Stantec indicated that a formal asbestos inventory of the house has not been completed. The assumption for no asbestos was based on the estimated construction timeframe of the 1970s or 1980s when asbestos-containing pipe material was unlikely used. The roof shingles may contain asbestos but typically do not require special handling or a licensed industrial hygienist. However, Live! Casino will need to confirm if the house contains asbestos-containing material prior to demolition and if so, take appropriate regulatory steps for proper disposal.

TRAFFIC IMPACT STUDY (TIS) REVIEW

Woodard & Curran contracted with Transportation Engineering Planning and Policy (TEPP), LLC to perform a review of the proposed TIS prepared by Stantec dated August 15, 2013. **Attachment 4** contains a copy of TEPP, LLC's comment letter dated September 16, 2013 that details their review and includes comments and proposed recommendations where applicable. Based on TEPP, LLC's review, as summarized on pages 10 and 11 under the conclusion section of the review letter, overall the TIS reflects applicable professional practice for a development of this type and based on this initial study the proposed project appears to have minimal traffic impacts.

Please note that Woodard & Curran and MEPA both conducted a review of the TIS concurrently and independently. Based on MEPA's scope of work requirements for the EIR outlined in the Secretary Certificate, TEPP, LLC's comments are independent but generally consistent with MEPA. However, MEPA does require additional areas for the EIR's traffic analysis and a more expansive traffic assessment to be performed as part of the EIR process.

CONCLUSION

Based on the information reviewed and City department comments received to date, we have identified no critical issues associated with the proposed project. The comments received largely include requirements that will be addressed as part of local, state and federal permits that Live! Casino will be required to obtain. Detailed design drawings and technical specifications will be developed to support the project permitting and construction phases of the process. The permit process will provide significant opportunities for the City to provide comment and input on this project to ensure any concerns identified to date and in the future are adequately addressed.

Please let me know whether you have any questions or need additional information.

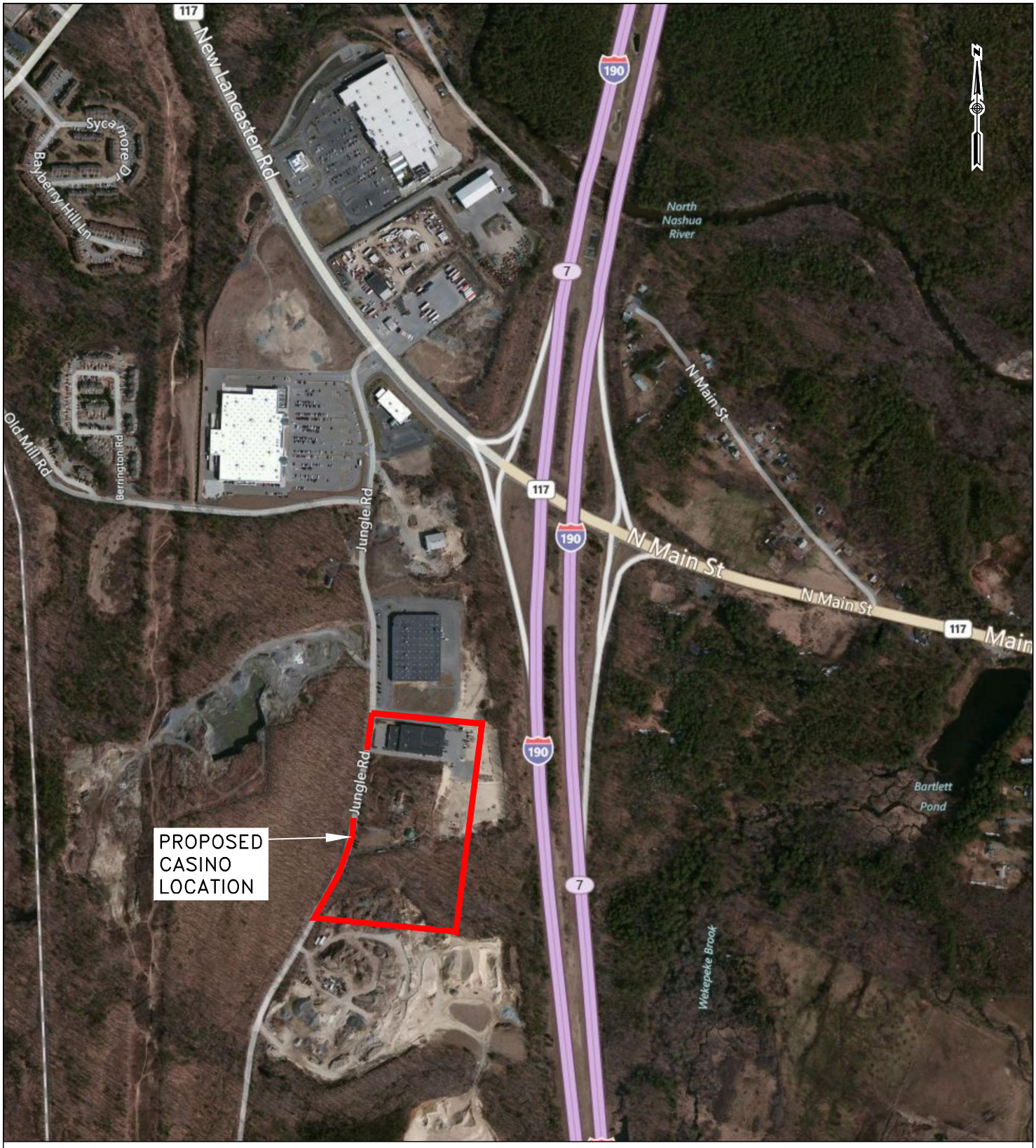
Sincerely,
WOODARD & CURRAN INC.

Alan Benevides, P.E.
Senior Vice President

AAB/bmz
Enclosures: Attachment 1 – Site Locus Map
Attachment 2 – MEPA Secretary Certificate
Attachment 3 – MHC Historical/Archeological Confirmation of No Impacts
Attachment 4 – TEPP, LLC September 16, 2013 Comment Letter

cc: Attorney Jonathan Silverstein, Kopelman and Paige, PC

ATTACHMENT 1: SITE LOCUS MAP



Source: Bing Aerial Maps

0 1,000 2,000 3,000 Feet

WOODARD &CURRAN
40 SHATTUCK ROAD, SUITE 110
ANDOVER, MASSACHUSETTS 01810
866.702.6371 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

SITE LOCUS MAP

DESIGNED BY: BMZ	CHECKED BY: BMZ
DRAWN BY: NFC	227243_USGS.dwg

PROPOSED LIVE!
CASINO GAMING FACILITY
INITIAL PEER REVIEW

42 JUNGLE ROAD
LEOMINSTER, MA 01453

JOB NO:	227243
DATE:	SEPT 2013
SCALE:	1"=1000'

FIGURE 1

ATTACHMENT 2: MEPA SECRETARY CERTIFICATE

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Deval L. Patrick
GOVERNOR

Richard K. Sullivan, Jr.
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
http://www.mass.gov/envir

September 6, 2013

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Live! Casino Massachusetts
PROJECT MUNICIPALITY	: Leominster
PROJECT WATERSHED	: Nashua River
EEA NUMBER	: 15087
PROJECT PROPONENT	: PPE Casino Resorts MA, LLC
DATE NOTICED IN MONITOR	: August 7, 2013

Pursuant to the Massachusetts Environmental Policy Act (MEPA) (M.G. L. c. 30, ss. 61-62I) and Section 11.03 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **requires** the preparation of a Mandatory Environmental Impact Report (EIR).

Project Description

As described in the Environmental Notification Form (ENF), the project consists of the development of a 1,250-slot machine gaming facility at 42 Jungle Road in Leominster. The Proponent is seeking a Category 2 gaming license pursuant to Chapter 194 of the Acts of 2011: An Act Establishing Expanded Gaming in the Commonwealth and M.G.L. Chapter 23K, Section 19, as amended by Section 16 of the Expanded Gaming Act, which authorizes the Massachusetts Gaming Commission (MGC) to license one slots facility statewide.

The proposed slots facility includes the following elements:

- a multi-story building with associated dining and entertainment venues providing 111,360 square feet (sf) of gaming space containing 1,250 slot machines;
- 854 surface parking spaces;
- landscaped areas; and,
- a stormwater management system.

The project will include a combination of new construction, retention of existing infrastructure, and demolition. New construction consists of a 111,360-sf building, new sewer mains, and surface parking spaces. The office and industrial facility will remain and continue its operations. An existing single-family home is slated for demolition. The project also includes construction of access drives, extensive landscaping, construction of a new stormwater management system and other associated infrastructure. Vehicular access to and circulation within the site is proposed via five access drives off of Jungle Road.

Project Site

The 16-acre site is located in southeastern Leominster, bordering Lancaster and is served by public transportation and the regional traffic network (Interstate 190 and Routes 2 and 117). The site is partially developed and includes a number of uses. The northern portion of the site is comprised of office and industrial spaces with associated large paved and gravel area for parking and materials storage. A single-family dwelling occupies the central portion of the site. The southern portion of the property is mainly comprised of forested uplands, and includes some forested wetlands and an intermittent stream. The southernmost portion of the site is an open area largely devoid of topsoil and vegetation which lies adjacent to an active sand and gravel mining operation.

Environmental Impacts

Potential environmental impacts are associated with: 14.5 acres of land alteration; the creation of 8.3 acres of new impervious area; alteration of 123,040 sf of Buffer Zone to wetland resource areas; generation of an additional 8,130 unadjusted average daily trips (adt) for a total of 8,430 unadjusted adt; use of an additional 26,627 gallons per day (GPD) of water for a total of 28,513 GPD of water; generation of an additional 26,938 GPD of wastewater for a total of 28,513 GPD of wastewater; construction of additional sewer infrastructure; and generation of greenhouse gas (GHG) emissions. The project will be designed to meet or exceed the U.S. Green Building Council's (GBC) Leadership in Energy and Environmental Design (LEED) goals as outlined in the Massachusetts Gaming Commission (MGC) application requirements.

Permits and Jurisdiction

The project is subject to MEPA review and requires the preparation of a Mandatory EIR pursuant to 301 CMR 11.03 (6)(a)(6) because it requires a State Agency Action and will generate 3,000 or more adt on roadways providing access to a single location. The project also requires MEPA review pursuant to 301 CMR 11.03 (1)(b)(2) because it will create five or more acres of new impervious area. The project requires a Category 2 Gaming License from the MGC, a Vehicular Access Permit from the Massachusetts Department of Transportation (MassDOT), and a Sewer Extension Permit from the Massachusetts Department of Environmental Protection (MassDEP). The project is subject to the May 5, 2010 MEPA GHG Emission Policy and Protocol (GHG Policy).

It will require multiple permits and approvals from the City of Leominster, including a Zoning Ordinance Special Permit, a Permit to Build, and an Order of Conditions from the Leominster Conservation Commission (or a Superseding Order of Conditions (SOC) from MassDEP if the local Order is appealed). The Proponent will develop a Host Community Agreement with the City of

Leominster, which wll be subject to a local referendum. Federal permits appear to be limited to a National Pollutant Discharge Elimination System (NPDES) Construction General Permit.

Because the Proponent is not requesting State Financial Assistance, MEPA jurisdiction is limited to the subject matter of required or potentially required permits; however, the subject matter of the Gaming License confers broad scope jurisdiction and extends to all aspects of the project that may cause Damage to the Environment, as defined by the MEPA regulations.

SCOPE

General

The Draft Environmental Impact Report (DEIR) should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this Scope.

Project Description and Permitting

The DEIR should include a detailed description of the proposed project and identify any changes to the project since the filing of the ENF. It should include updated site plans for existing and proposed conditions at a legible scale. Plans should clearly identify access roadways and internal driveways, proposed structures, surface parking, infrastructure (e.g. drainage, wastewater, water supply) wetland resource areas, and adjacent land uses. The DEIR should identify all State permits and approvals required for the project and identify how the project will be developed consistent with associated regulatory standards and requirements. In addition, it should describe project phasing and identify how permitting will be addressed within the context of this phasing.

The DEIR should identify the project's consistency with Executive Order 384, the Commonwealth's Sustainable Development Principles, and regional and local land use plans, including the Executive Order 418 Community Development Plan for Leominster (June 2004), and the Montachusett Regional Strategic Framework Plan (April 2011).

To provide context for the project review, the DEIR should provide a summary of the relevant sections of the Expanded Gaming Act and associated regulations, the project application process, and the development of the Host Community agreement.

Alternatives Analysis

As a proposed slots casino, the project must be consistent with the Expanded Gaming Act, which was developed to create new jobs and spur economic development. The DEIR should identify elements of the project that are required by the legislation and/or regulations and the extent to which the size and associated impacts of the project are driven by gaming requirements.

The ENF includes a limited alternatives analysis that briefly discusses alternative sites considered for the proposed project in the City of Leominster, and alternative on-site configurations. While I am not directing the Proponent to investigate alternative sites for the proposed project, the DEIR

should include an alternatives analysis for the current project site to demonstrate that Damage to the Environment can be avoided, minimized or mitigated. The DEIR should provide an alternatives analysis that provides conceptual site layout plans, a summary of potential environmental impacts associated with each of these alternatives (preferably in tabular format) and a supporting narrative for each of the following alternatives:

- A No-Build Alternative;
- A Reduced Build Alternative (i.e. reduced land alteration and impervious area);
- An Open Space Alternative (which maintains the southernmost portion of the site as open space and subsequently removes impervious area and parking from this area); and
- The Preferred Alternative.

I encourage the Proponent to continue to explore on-site alternatives to reduce impacts to environmental resources through design modification or the addition of features to further mitigate potential impacts. Additional recommendations provided in this Certificate may result in a modified design that enhances the project's ability to avoid, minimize, or mitigate Damage to the Environment. The DEIR should discuss steps the Proponent will take to further reduce the impacts of the project since the filing of the ENF, or, if certain measures are infeasible, the DEIR should discuss why these measures will not be adopted.

The DEIR should identify each alternative's impacts on land alteration, creation of impervious area, impacts to wetland resource areas, traffic generation, parking, water use, and wastewater. This comparison should be provided in a tabular format with supporting narrative and conceptual site plans. In addition, the Traffic and Transportation Section of the Scope identifies additional alternatives analysis that will be required for development of roadway improvements and mitigation.

Greenhouse Gas Emissions

The ENF indicates that the Proponent is considering alternative energy sources for the project design, including geothermal and solar. While a Category 2 slots casino is generally designed on a smaller scale than a Category 1 casino, and typically will result in less Damage to the Environment, the project still offers a wide variety of opportunities to introduce innovative programs and establish the casino as a leader in environmental sustainability; its operating characteristics – including continuous operations, designs that include large open gaming rooms with varying levels of occupancy over the course of a day – provide a strong incentive for doing so. The Proponent should consult with environmental and energy programs, including the Massachusetts Clean Energy Center (CEC), MassDEP and the Department of Energy Resources (DOER) to identify opportunities and technical assistance resources for design and implementation of projects or pilot programs.

This project is subject to review under the May 5, 2010 MEPA GHG Policy and it is subject to the Massachusetts Stretch Energy Code (Stretch Code) adopted by the City of Leominster. The DEIR should include an analysis of GHG emissions and mitigation measures in accordance with the standard requirements of this Policy. The analysis should quantify the direct and indirect GHG emissions associated with the project's energy use and transportation-related emissions. Direct emissions include on-site stationary sources, which typically emit GHGs by burning fossil fuel for heat, hot water, steam and other processes. Indirect emissions result from the consumption of energy, such as electricity, that is

generated off-site by burning of fossil fuels, and from emissions associated with vehicle use by employees, vendors, customers and others. The DEIR should identify and commit to mitigation measures to reduce GHG emissions.

The DEIR should include a GHG emissions analysis that calculates and compares GHG emissions associated with: 1) a Massachusetts Building Code-compliant baseline (based on the Massachusetts Building Code 8th Edition (Chapter 780 CMR 13.00) which has been amended to adopt and integrate either the current version of the International Energy Conservation Code (IECC) or ASHRAE 90.7-2007); and, 2) a Preferred Alternative that includes energy efficiency design measures to achieve compliance with the Stretch Code. The Policy requires Proponents to use energy modeling software to quantify projected energy usage from stationary sources and energy consumption and modeling should be developed in accordance with ASHRAE 90.1–2007 Appendix G.

The GHG analysis should clearly demonstrate consistency with the objectives of MEPA review, one of which is to document the means by which Damage to the Environment can be avoided, minimized and mitigated to the maximum extent feasible. The Proponent should identify the model used to analyze GHG emissions, clearly state modeling assumptions, explicitly note which GHG reduction measures have been modeled, and identify whether certain building design or operational GHG reduction measures will be mandated by the Proponent to future occupants or merely encouraged for adoption and implementation. The DEIR should include the modeling printout for each alternative and emission tables that compare base case emissions in tons per year (tpy) with the Preferred Alternative showing the anticipated reduction in tpy and percentage by emissions source (direct, indirect and transportation). Other tables and graphs may also be included to convey the GHG emissions and potential reductions associated with various mitigation measures as necessary.

The DEIR should present an evaluation of mitigation measures identified in the GHG Policy Appendix. In particular, the feasibility of each of the mitigation measures outlined below should be assessed for each of the major project elements, and if feasible, GHG emissions reduction potential associated with major mitigation elements should be evaluated to assess the relative benefits of each measure. The DEIR should explain, in reasonable detail, why certain measures, which could provide significant GHG reductions, were not selected – either because it is not applicable to the project or is considered technically or financially infeasible.

- Minimize energy use through building orientation and evaluate its impacts on energy usage, including solar gain, day-lighting and viability of solar photovoltaic (PV) systems;
- Use of high-albedo roofing materials;
- Install high-efficiency HVAC systems and adequate numbers of thermal zones to support temperature controls;
- Reduce energy use through peak shaving or load shifting strategies;
- Maximize interior day-lighting through floor-plates, increased building perimeter and use of skylights, clerestories and light wells;
- Incorporate window glazing to balance and optimize daylighting, heat loss and solar heat gain performance;
- Incorporate roof and wall insulation to minimize heat loss and minimize uncontrolled infiltration through the building envelope;
- Incorporate lighting motion sensors, climate control and building energy management systems;

- Install energy efficient lighting, both exterior and interior; and,
- Evaluate additional measures to reduce project plug loads, including the use of more efficient equipment (such as Energy Star), consider energy consumption as a factor in the selection of special equipment, such as slot machines, and consider power management techniques.

In light of the early stage of design, I expect the Proponent will analyze the feasibility and benefits of incorporating renewable energy sources thoroughly in the DEIR. The Proponent should consider combined heat and power (CHP) as a promising energy alternative for this project. Because three quarters of the energy demand at casinos relates to heating and lighting, CHP can be a cost effective approach to reducing GHG emissions. It can also create greater reliability for electricity and greater control over uncertainties associated with energy prices. The DEIR should evaluate the feasibility of CHP. The analysis should include consideration of one of the major benefits of a CHP system – the ability to produce off-grid power. I encourage the Proponent to consult with DOER regarding this analysis to ensure that compliance with the building code and site and source energy accurately reflect the benefits of CHP.

The DEIR should include details regarding the potential output of one or multiple rooftop PV systems, identify areas suitable for ground-mounted solar arrays, an economic analysis associated with a first-party or third party installation, and for potential rooftop systems, how mechanicals can be arranged to maximize the area that could be dedicated to PV uses. This analysis of both roof-mounted and ground-mounted PV systems should include assumptions about available rooftop or land areas, potential system outputs, and installation costs ($/watt). I recommend that the Proponent use data available from the CEC to obtain current data on average $/watt installation costs for PV systems in Massachusetts (*Commonwealth Solar Installers, Costs, Etc.*, available at http://www.masscec.com/index.cfm/page/Downloads-and-Resources/pid/11163). The analysis should consider state incentives to promote the use of PV systems (Commonwealth Solar II and Commonwealth Solar Stimulus). At a minimum, the building should be oriented to the south to maximize solar exposure and, if the analysis demonstrates that such systems are presently infeasible, they should be "solar ready" to facilitate future installation of PV systems. If PV is not financially feasible, I request that the Proponent commit in the DEIR to revisit the PV financial analysis on a regular timetable and to implement PV when the financial outcomes meet specified objectives. In addition, the Proponent should consider use of solar parking canopies in the parking lot.

I encourage the Proponent to consult with MassDEP on analysis of anaerobic digestion use for the project to reduce organic waste from project facilities while providing an alternative fuel source. The Commonwealth has announced its intent to institute a ban on the direct disposal of food waste into landfills and incinerators in 2014 for large scale food waste generators; the ban might include casinos, particularly if food is served. I encourage the Proponent to implement measures consistent with MassDEP food waste goals such as separation and non-disposal options. The DEIR should include a feasibility study of the construction of an on-site anaerobic digestion facility. This technology may allow for a unique on-site energy source to reduce project-related GHG emissions, while managing food waste in a manner consistent with MassDEP goals.

The Proponent should evaluate energy efficiency measures that may have been adopted by other casinos in both building design and operation to identify potential GHG reduction measures for this project. In the process of advancing project design, I encourage the Proponent to consider design options

that will allow for cost-effective integration of efficiency or renewable energy measures in the future when such measures may become more financially or technically feasible.

The project may include leasing of space to tenants and, therefore, certain energy efficiency measures may require a level of design that will be deferred to the tenants' selection or which the developer may be less willing to commit to in advance because all the energy savings may inure to the tenants' benefit depending on the lease arrangements. While I encourage the Proponent to adopt those GHG reduction measures that are integrated into the building's core, shell and infrastructure, some measures may be transient or dependent on operational procedures implemented by the future occupant. In those instances, the Proponent should consider reasonable measures to educate and create incentives for the tenants to adopt energy efficiency/renewable generation measures. The DEIR should address the Proponent's commitment to providing energy efficiency consulting services and information and/or developing a tenant manual that requires or strongly supports GHG reduction measures.

The DEIR should identify whether the project will include fleet vehicles. For the purposes of the GHG Policy, fleet vehicles are generally considered to be a source of direct GHG emissions from vehicles used by a project proponent in the everyday operation of a facility. In this case, these may include shuttle buses for employees and patrons, landscaping or catering vehicles, etc. The Proponent should consult the Policy for further direction on how to estimate direct mobile source GHG emissions and contact the MEPA office to discuss appropriate assumptions and methodology prior to conducting the analysis.

As noted by MassDEP, the Proponent should also consider implementing transportation demand management (TDM) measures (which are addressed in more detail within the following Traffic and Transportation Section) and adoption of additional sustainable design measures for which GHG reductions cannot be easily quantified, such as recycling efforts and water conservation measures, that can be incorporated into the project. Additional GHG reductions can be achieved through effective materials management during the design, construction, and operations phases of the project. These measures will be considered when evaluating whether the project can mitigate its GHG emission to the greatest extent practicable.

The GHG analysis should include an evaluation of potential GHG emissions associated with mobile emissions sources. The DEIR should follow the guidance provided in the Policy for *Indirect Emissions from Transportation* and use data gathered as part of the mesoscale analysis to determine mobile emissions for Existing Conditions, Full-Build 2023 Conditions, and Full-Build 2023 Conditions with Mitigation. Given the large volume of traffic anticipated by the project, the Proponent is expected to thoroughly explore means to improve traffic operations and reduce overall single occupancy vehicle trips. Improvements in traffic operations that reduce idling time and an overall reduction in vehicle trips can reduce overall project-related mobile source GHG reductions. The DEIR should also identify TDM measures proposed for each of the alternatives and the corresponding emission reductions expected.

The DEIR should include a commitment to provide a self-certification to the MEPA Office at the completion of the building. It should be signed by an appropriate professional (e.g. engineer, architect, transportation planner, general contractor) indicating that all of the GHG mitigation measures, or equivalent measures that are designed to collectively achieve identified reductions in stationary source GHG emission and transportation-related measures, have been incorporated into the project. The

Proponent should refer to the Policy for additional guidance on the GHG analysis. MEPA, MassDEP and DOER staff are available to assist with these efforts and I encourage the Proponent to consult with them regarding the analysis prior to submission of the DEIR.

Air Quality

In accordance with the State Implementation Plan (SIP) for ozone attainment, the Proponent must conduct an indirect source review analysis because this is a mixed-use project that would generate 6,000 or more new adt. This analysis should be conducted in accordance with MassDEP Guidelines for Performing Mesoscale Analysis of Indirect Sources. The Proponent should consult with MassDEP for guidance and for confirmation of the appropriate study area. If hydrocarbon emissions associated with the Build scenario are greater than the No Build scenario, the Proponent would be required to provide mitigation, including the implementation of a TDM Program.

The DEIR should identify certifications and permits that may be required for on-site energy sources such as boilers, stationary turbines, emergency generators, etc. for proposed project elements.

Traffic and Transportation

The project site is located adjacent to the Interstate 190 (I-190)/Route 117 interchange. According to the ENF, access to the site will be provided via Jungle Road, which intersects Route 117 at a signalized intersection approximately 600 feet northwest of the I-190 southbound ramps. The site is located in an area that is experiencing significant growth as evidenced by the upgrading of Route 117 to accommodate retail development in the corridor.

The project has the potential to generate 8,130 new unadjusted vehicle trips on weekdays, including 500 new vehicle trips during the weekday PM peak hour and 530 new vehicle trips during the Saturday midday peak hour. The project requires a Vehicular Access Permit from MassDOT. Development of an effective transportation access and mitigation plan is critical to avoid potentially significant impacts to the regional transportation system and state roadways. Project planning should place equal emphasis on roadway improvements and TDM measures and pursue creative solutions to encourage both patrons and employees to use alternative modes of transportation. MassDOT provided detailed comments on the project and analysis required to assess impacts and develop adequate mitigation.

Traffic Study

The DEIR should include a traffic study consistent with the EEA/Massachusetts Department of Transportation (MassDOT) Guidelines for EIR/Environmental Impact Statement (EIS) Traffic Impact Assessments. The traffic study should evaluate the study area and identify appropriate mitigation for areas where the project will have an impact on traffic operations. The Proponent should provide a clear commitment to implement mitigation measures and should describe the timing of its implementation based on phases of the project, if any.

The DEIR should present capacity analyses and a summary of average and 95th percentile vehicle queues for each intersection within the study area. The DEIR should also present a merge and

diverge for each ramp junction and weaving analysis for all the interchanges located in the study area. Any proposed traffic signals must include a signal warrant analysis conducted according to the Manual of Uniform Traffic Control Devices (MUCTCD). The results of this analysis should be provided in a tabular format that identifies Existing, No Build, Future Build and Future Build with Mitigation scenarios for all peak hour conditions.

Comments from MassDOT state that the proposed Study Area for the traffic analysis should include, at a minimum, the following intersections:

- Jungle Road and Route 117;
- Jungle Road and Site Driveway(s);
- Jungle Road and the Walmart Site Driveway;
- Jungle Road and the secondary Walmart Site Driveway;
- Jungle Road and Old Mill Road;
- Route 117 and the I-190 Southbound Ramps;
- Route 117 and the I-190 Northbound Ramps;
- Route 117 and Route 70;
- Route 117 and the Interstate 495 (I-495) Southbound Ramps;
- Route 117 and the I-495 Northbound Ramps;
- I-495 and the Route 2 Interchange; and,
- I-190 and the Route 2 Interchange.

The Town of Westminster requests that the intersection of Routes 2 and 140 be included in the study area.

As noted in the MassDOT comment letter, the Institute of Transportation Engineers (ITE) Trip Generation manual does not provide guidance for the proposed land use. The DEIR should expand on the methodology behind the trip generation projections. This analysis should include, at a minimum, empirical data from at least three similar facilities already in operation with similar size, location, and number of slots to the proposed facility. The trip generation analysis should be based on the number of gaming positions as the independent variable. The traffic counts should be conducted during the weekday morning, Friday afternoon, and Saturday midday peak hours. The Proponent should consult with MassDOT to develop appropriate and reasonable travel demand and trip generation characteristics.

Roadway and Signalization Improvements

The ENF provides preliminary concepts for on-site vehicular access and for off-site roadway, traffic and safety improvements that will be developed in consultation with MassDOT and the City of Leominster. It identifies improvements along Jungle Road and its intersection with Route 117 including the following:

- Installing a signal at the Jungle Road /Walmart Driveway and coordinating it with the existing signal on Route 117;
- Providing a dedicated left-turn lane on Jungle Road northbound at the main Walmart driveway;
- Providing a dedicated left-turn lane on Jungle Road westbound at Old Mill Road;

- Widening Jungle Road to provide minimum four-foot-wide shoulders/bike accommodations;
- Installing a sidewalk along one side of Jungle Road; and
- Providing a raised median along Jungle Road to create a boulevard effect.

Comments from MassDOT do not provide an evaluation or endorsement of these improvements as mitigation for the project. The Proponent should continue discussions with MassDOT regarding evaluation of alternatives in the DEIR to address transportation impacts, and to preserve mobility along the study area major roadways. Improvements should be identified that can address long-term regional goals for the corridor and provide adequate access to the site. MassDOT recommends that the evaluation focus on both physical improvements and creative strategies that would encourage non-single-occupant travel modes. I strongly recommend that the Proponent consult with MassDOT, the City of Leominster, and the neighboring municipality of Lancaster regarding the development of this analysis and identification of mitigation alternatives prior to filing the DEIR.

The DEIR should include conceptual plans at a reasonable scale (e.g. 80-scale) for the proposed roadway improvements that clearly show proposed lane widths and offsets, layout lines and jurisdictions, and the land uses (including access drives) adjacent to areas where improvements are proposed. Land acquisition and/or easements required to support improvements should be identified in the DEIR. Any environmental impacts associated with roadway improvements should be identified (in text and on project plans) and quantified within the DEIR (i.e. wetlands impacts, stormwater, etc). In addition, the DEIR should identify consistency of any mitigation measures within the state highway layout and on-site, including access drives and roadway improvements, with a Complete Streets design approach that provides adequate and safe accommodation for all roadway users, including drivers, pedestrians, cyclists and transit riders. The DEIR should include a site circulation plan that clearly identifies how vehicular (including trucks, shuttle buses, tour buses), pedestrian and bicycle access will be provided throughout the site. The Proponent should provide justification if the criteria within the design guidelines included in the MassDOT Project Development and Design Guide cannot be met and a design waiver is required.

Transportation Demand Management

The DEIR should include a comprehensive TDM Program that will provide incentives for using alternative transportation and discourage single-occupant vehicle (SOV) trips. The TDM program should evaluate all feasible measures to reduce trip generation associated with the project. It should include specific, defined mode share goals that target high rates of transit, bicycle, and pedestrian use. Data and analysis of existing modes (including public transportation, walking, and bicycling), future demand and origin-destination patterns of casino employees and patrons, should be employed to identify proposed physical improvements and supporting programs to increase these modes. The DEIR should specifically address TDM measures identified in the MassDEP and MassDOT comment letters. The Proponent should consult with MassRIDES to identify additional TDM measures that may be applicable to the project. The DEIR should provide information on the substance and outcomes of any of its consultations.

It is unclear from the ENF exactly how pedestrians and bicycles will be accommodated on the project site. The DEIR should describe how the sidewalk network will be designed to provide internal circulation on the site as well as to connect the site to the nearby commercial uses. The DEIR should

provide a thorough inventory of all existing, planned, and proposed services, facilities, and routes for accessing the site via alternative travel modes. It should also identify constraints that would limit transit, walking and bicycle trips. The site design should provide adequate pedestrian and bicycle accommodations and include secure indoor bicycle storage and racks located near building entrances. The DEIR should evaluate the design of a bicycle lane of at least five feet wide in keeping with MassDOT and national design standards. The DEIR should clearly demonstrate how the proposed bicycle accommodations will fit into any existing bicycle networks within the study area.

Public transportation should be a core component of the traffic mitigation program. The DEIR should include a comprehensive analysis of existing and future conditions of transit services within the study area. The DEIR should identify existing frequency and capacity; provide a realistic projection of future demand; propose a comprehensive transit mitigation plan to reduce vehicular traffic; and commit to key investments that will encourage both employees and patrons to use public transportation. The DEIR should demonstrate that transit is integrated into the site design to ensure that public transit riders have adequate and attractive access and amenities. Similarly, the DEIR should describe how the site design will provide for seamless access by over-the-road coach, urban transit buses, and shuttle buses. The DEIR should detail how people arriving by public transportation will have at least equivalent accommodations to those travelling by private automobile. The Proponent should consult with MassDOT and Montachusett Regional Transit Authority (MART) regarding existing transit service and ridership, potential impacts to bus routes, and provision of adequate transit infrastructure and amenities to encourage transit usage, including effective pedestrian connections to the site from bus routes and/or incorporation of on-site bus shelters.

Parking

The project design includes an additional 854 surface parking spaces, for a total of 912 parking spaces. The DEIR should include a detailed parking demand and supply analysis. The DEIR should include a parking study that identifies assumptions and methodology used to project parking demand. This should be developed based on parking needs and supplies for comparable facilities based on multiple data sources. It should identify type of parking required (e.g. patrons, employees, parking for private buses), parking demand at different times of day and, expected parking duration. The DEIR should describe opportunities for reducing the total amount of parking, considering the proximity to large retail areas, and consider banking parking until construction is warranted by demand. Strategic use of shared parking (on- and off-site) and provision of the minimum parking necessary, can support additional reductions in impervious surfaces, and will support the effectiveness of the TDM program. The TDM Program should incorporate policies designed to minimize parking demand, including fees for parking and parking cash-out policies.

The Proponent should consider providing charging stations and preferential parking for plug-in electric vehicles. It should provide preferential parking for hybrid or alternatively-fueled vehicles, carpool or vanpools and provide space for a shared car program (e.g. ZipCars).

Monitoring Program

The DEIR should include a commitment to implement a transportation monitoring program (TMP) to be conducted upon occupancy of the project. The TMP's goals should be to evaluate the

assumptions made in the TIAS and the adequacy of the proposed transportation mitigation measures, as well as to determine the effectiveness of the TDM program. The Proponent should consult with MassDOT regarding the duration and frequency of monitoring.

In addition, the project is subject to the MassDEP Rideshare Regulation (310 CMR 7.16), a clean air program that applies to employers with 250 or more daily employees and includes reporting requirements. The DEIR should confirm that the project will be managed consistent with these requirements.

Wetlands /Drainage

The project will be reviewed by the Leominster Conservation Commission for its consistency with the Wetlands Protection Act and associated regulations (310 CMR 10.00), including stormwater management standards. The project will alter approximately 123,040 sf of Buffer Zone to Bordering Vegetated Wetlands and Bank. Alteration to Buffer Zone is associated with abandoning an existing access road for all but sporadic utility vehicle use, and design improvement for use as a pedestrian footpath between the facility and the southern parking area.

The DEIR should demonstrate that the project can be designed and constructed consistent with performance standards. It should include plans at a reasonable scale that clearly delineate all applicable resource area boundaries including riverfront area, buffer zones, and 100-year flood elevations. The DEIR should quantify the project's estimated impact on each resource area. It should describe the nature of all impacts that cannot be avoided including grading, clearing and construction-related disturbances and whether they are temporary or permanent in nature. The DEIR should identify and evaluate all feasible methods to reduce impervious surfaces, including reduced parking ratios, banking of parking, and narrow roadway widths.

The DEIR should include a stormwater management plan which demonstrates that source controls, pollution prevention measures, erosion and sediment controls and the drainage system will comply with the stormwater standards for water quality and quantity both during construction and post-development. If subsurface infiltration is proposed, the DEIR should demonstrate that soils and groundwater conditions are suitable for such discharges. It should include a commitment to develop an operations and management plan to ensure the long-term effectiveness of the stormwater management system. The locations of detention basins, distances from wetland resource areas and the expected quality of the effluent from the basins should be identified. The Proponent will be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the NPDES Permit.

The Proponent should carefully review comments from MassDEP regarding wetlands and drainage issues. The ENF indicates that the Proponent will consider incorporation of Low Impact Development (LID). The ENF indicates specific best management practices (BMPs) will include porous pavements, water quality swales, raingardens, and subsurface infiltration. The DEIR should address these alternatives in more detail.

Water Supply

The project will increase water demand by 26,627 GPD for a total of 28,513 GPD. The site is served by the City of Leominster municipal water system. There is an existing water main located in Jungle Road along the site frontage. Comments from MassDEP indicate that the DEIR should include revised water usage projections. The DEIR should detail the method and provide supporting data to demonstrate how these calculations were developed. MassDEP states that if the DEIR provides sufficient data to confirm the estimated water usage presented in the ENF the City of Leominster has adequate capacity for this water supply.

MassDEP notes that this site includes the last building on the road leading to one of Leominster's water supply sources. The Proponent should consider installing a better fence for the City at the end of the street for protecting the drinking water well area. Although the project site is outside the Zone I, the stormwater management system should be designed to protect contamination from entering the groundwater.

The ENF identifies limited water conservation measures that will be incorporated into the project. The DEIR should identify infrastructure improvements for water supply, demonstrate that adequate hydraulic capacity will be provided to serve the project, and identify measures to minimize water use, including reuse of grey water. The DEIR should identify and describe commitments to water conservation and estimate associated decreases in demand. The DEIR should consider installing timers, soil moisture indicators and rainfall sensors in any in-ground sprinkler systems. The DEIR should explore opportunities for grey water recycling for use in sanitary facilities, irrigation, or ornamental uses (e.g. fountains). The DEIR should provide an analysis of potential water supply demand reductions that may be achieved through the implementation of grey water recycling infrastructure and feasibility of implementing such a system.

Wastewater

The project requires a Sewer Extension Permit from MassDEP because the project includes the extension of a sewer line greater than 1,000 linear feet. The ENF indicates that the project will generate an additional 26,938 GPD of wastewater for a total of 28,513 GPD. Comments from MassDEP indicate that the DEIR should include revised wastewater flow projections. Projections should be developed consistent with 314 CMR 7.15 or 310 CMR 15.203 (2)-(5). Existing flows that will be maintained may be evaluated using existing meter data. The DEIR should detail the method for projecting wastewater flows. The DEIR should include updated projections of wastewater generation, describe existing and proposed wastewater infrastructure for the entire site, and identify measures to minimize wastewater demand and mitigate project impacts.

The ENF indicates that the existing infrastructure has adequate capacity to support the project. New sewer mains were installed in Jungle Road and New Lancaster Road in 2007 as part of a large-scale commercial development near the project site. The new sewer mains flow by gravity to a pump station located at the end of Lancaster Street that discharges to a force main that runs along Lancaster Road and finally, by gravity flow, to the City of Leominster Wastewater Treatment Facility. The project proposes to extend the 12-inch sewer along Jungle Road approximately 1,500 linear feet to the project site.

Comments from MassDEP indicate that under an Administrative Consent Order (ACOP-CE-02-1007), the proposed sewer extension/connection is subject to the sewer bank arrangement to remove infiltration/inflow (I/I) from the Leominster municipal sewer system in the amount equal to four times of the sewage design flow. The City of Leominster completed a number of major sewer improvement/rehabilitation projects in the past ten years that may have removed sufficient I/I from the system for future developments like the proposed project. The DEIR should demonstrate that the current sewer bank account balance is adequate.

Hazardous Waste

The ENF indicates that the site has no known existing sources of hazardous materials. In the event that any new releases are discovered during demolition or construction, the status of the release in accordance with the Massachusetts Contingency Plan (MCP) should be identified in the DEIR.

Construction Period Impacts

The project schedule is dependent upon the MGC schedule for reviewing projects and issuing licenses. The DEIR should discuss the length of time for construction of the facility and associated elements.

The DEIR should include a discussion of construction phasing, evaluate potential impacts associated with construction activities (including but not limited to noise, vibration, dust, and traffic flow disruptions) and propose feasible measures to avoid or eliminate these impacts. The phasing plan should identify whether office and industrial operations will continue in the northern area of the site during construction and, if so, how parking and other needs will be accommodated during construction.

The project must comply with MassDEP's Solid Waste and Air Quality Control regulations, pursuant to M.G.L. Chapter 40, Section 54, during demolition and construction. The ENF indicates that the single-family home on the on-site will be demolished. Demolition materials will be reused, recycled, and disposed of in compliance with applicable solid waste regulations.

The Proponent should mitigate the construction period impacts of diesel emissions to the maximum extent feasible. This mitigation may be achieved through the installation of after-engine emission controls such as diesel oxidation catalysts (DOCs) or diesel particulate filters (DPFs), or the use of equipment that meets Tier 3 or Tier 4 emission standards for non-road construction equipment. Comments from MassDEP note that project contractors are required to use ultra low sulfur diesel (ULSD) fuel (15 parts per million sulfur) in off-road engines and provides additional resources to assist with implementation of this program. The DEIR should indicate measures that will be incorporated into the project. The project must comply with the Massachusetts Idling regulation (310 CMR 7.11). The DEIR should address how the project will ensure compliance with the regulation.

Mitigation

The DEIR should include a separate chapter that identifies all mitigation measures. This chapter should also include separate draft Section 61 Findings for each State Agency that will issue permits for

the project. The draft Section 61 Findings should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and include a schedule for implementation. In addition, it should include a commitment to provide a self-certification document indicating that GHG measures have been incorporated into the project.

Responses to Comments

The DEIR should contain a copy of this Certificate and a copy of each comment letter received. To ensure that the issues raised by commenters are addressed, the DEIR should include responses to comments. This directive is not intended to, nor shall it be construed to, enlarge the scope of the DEIR beyond what has been expressly identified in this certificate.

Circulation

In accordance with Section 11.16 of the MEPA Regulations, the Proponent should circulate a hard copy of the DEIR to each State and City agency from which the Proponent will seek permits or approvals and to each of the surrounding municipalities that submitted comments. I also request that the Proponent provide hard copies of the DEIR to the MEPA review coordinator at the Department of Energy Resources. The Proponent must circulate a copy of the DEIR to all other parties that submitted individual written comments.

To save paper and other resources, the Proponent may circulate copies of the DEIR to these other parties in CD-ROM format, although the Proponent should make available a reasonable number of hard copies, to accommodate those without convenient access to a computer to be distributed upon request on a first come, first served basis. The Proponent should send a letter accompanying the CD-ROM indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. I recommend that the DEIR be posted in an online format either through the City of Leominster website, or on a dedicated Proponent-affiliated website. In addition, a copy of the DEIR should be made available for public review at the Leominster and Lancaster public libraries.

September 6, 2013
Date

Richard K. Sullivan Jr.

Comments received:

08/27/2013 Massachusetts Department of Transportation (MassDOT)
08/29/2013 Massachusetts Department of Environmental Protection (MassDEP)/Central Regional Office (CERO)
08/10/2013 Cara Sanford
08/27/2013 Robert K. Lidstone, Lancaster Land Trust
09/03/2013 Town of Westminster
09/03/2013 Watchdogs for an Environmentally Safe Town (WEST)

RKS/PPP/ppp

ATTACHMENT 3: MHC HISTORICAL/ARCHEOLOGICAL CONFIRMATION OF NO IMPACTS

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A

RC.54626

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: Live! Casino Massachusetts

Location / Address: 42 Jungle Road

City / Town: Leominster

Project Proponent

Name: PPE Casino Resorts Massachusetts, LLC

Address: 601 East Pratt St., 6th Floor

City/Town/Zip/Telephone: Baltimore, MD 21020 410.752.5444

After review of MHC files and the materials ~~you submitted, it has been~~ determined that this project is unlikely to affect significant historic or archaeological resources.
RC.54626

8/16/13
Jonathan K. Patton Date
Archaeologist / Preservation Planner
Massachusetts Historical Commission

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

Agency Name	Type of License or funding (specify)
See attached page for list	

Project Description (narrative):

Construction of a 1,250 seat gaming facility consisting of slot machines and associated dining and entertainment venues.

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.

Yes; of one single-family structure (photographs attached).

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.

No.

Does the project include new construction? If so, describe (attach plans and elevations if necessary).

Yes. See attached site plan and renderings.

APPENDIX A (continued)

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify.

No.

What is the total acreage of the project area?

Woodland	5.2+/- acres	Productive Resources:	
Wetland	0.9 +/- acres	Agriculture	0 acres
Floodplain	0 acres	Forestry	0 acres
Open space	0 acres	Mining/Extraction	0 acres
Developed	9.9 +/- acres	Total Project Acreage	16 +/- acres

What is the acreage of the proposed new construction? 14.5 acres acres

What is the present land use of the project area?

An office/industrial building exists in the northern portio of the property; a single-family home exists in the central portion of the site; the southern portion of the site and site's eastern periphery include unvegetated areas that were historically mined for sand and gravel.

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location.

This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

Signature of Person submitting this form: _____ Date: July 30, 2013

Name: David Cameron, Stantec Consulting

Address: 136 West Street

City/Town/Zip: Northampton, MA 01060

Telephone: 413-387-4516

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.

ATTACHMENT 4: TEPP, LLC SEPTEMBER 16, 2013 COMMENT LETTER

TEPP LLC TRANSPORTATION ENGINEERING, PLANNING AND POLICY

93 Stiles Road, Suite 201, Salem, New Hampshire 03079 USA
800 Turnpike Street, Suite 300, North Andover, Massachusetts 01845 USA
Phone (603) 212-9133 and Fax (603) 226-4108
Email tepp@teppllc.com and Web www.teppllc.com

MEMORANDUM

Ref: 1237

Subject: Traffic Peer Review
Proposed "Live! Casino Massachusetts"
Leominster, Massachusetts

From: Kim Eric Hazarvartian, Ph.D., P.E., PTOE
Principal

Date: September 16, 2013

INTRODUCTION

Stantec Consulting Services, Inc. (Stantec) prepared the August 15, 2013 traffic impact study (TIS) of the "Live! Casino Massachusetts" (gaming facility) that is proposed for a site along Jungle Road in the City of Leominster, Massachusetts. Woodard & Curran, Inc. has retained TEPP LLC to review the TIS on behalf of the City.

The TIS review included:

- visiting the site environs on Thursday, September 5, 2013, to observe existing geometry, traffic control, sight lines and traffic operations
- assessing the scope of the TIS in terms of applicable professional practice
- reviewing the TIS data, analysis, findings and recommendations

The TIS states that the proposed gaming facility will:

- have 1,250 slot machines
- include a multi-story building with the slot parlor, including associated dining and entertainment venues
- be on a site of about 16 acres, fronting on the east side of Jungle Road and to the west of Interstate Route 190 (I-190)

STUDY AREA

The TIS study area includes the following intersections:

- Massachusetts Route 117 (Route 117)/Lowe's driveway (signalized)
- Route 117/Jungle Road (signalized)

- Route 117/I-190 southbound ramps (signalized)
- Route 117/I-190 northbound ramps (signalized)
- Jungle Road/Walmart shared driveway (unsignalized)
- Jungle Road/Walmart south driveway (unsignalized)
- Jungle Road/Old Mill Road (unsignalized)
- Jungle Road/proposed gaming facility driveway (unsignalized)
- Old Mill Road/Berrington Road condominium driveway (unsignalized)

TEPP LLC comments that the study area is adequate in terms of applicable professional practice.

ANALYSIS CONDITIONS

The TIS includes the following analysis conditions:

- 2013 existing
- 2020 no-build, with background traffic growth and without the proposed gaming facility
- 2020 build, with background traffic growth and the proposed gaming facility

TEPP LLC comments that these analysis conditions are adequate in terms of applicable professional practice. The 2020 horizon is seven years in the future, compared to the five years often used in the Commonwealth of Massachusetts.

ANALYSIS HOURS

The TIS includes the following analysis hours:

- the weekday PM commuter peak hour (generally 4:30 to 5:30 PM)
- the Saturday late-afternoon hour (generally 5:00 to 6:00 PM)

TEPP LLC comments that these analysis hours are adequate in terms of applicable professional practice. The proposed gaming facility is not anticipated to have substantial traffic impact during the weekday AM commuter peak hour. On Saturday, area traffic includes retail/commercial trips, and peaks around mid-day. The proposed gaming facility is anticipated to have peak trip generation during the later evening. The Saturday late-afternoon hour represents a reasonable overlap of area retail/commercial traffic.

EXISTING CONDITIONS

OVERVIEW

The TIS includes the following for existing conditions:

- road conditions, including Route 117, Jungle Road and Old Mill Road
- traffic volumes
- 2013 existing traffic volumes for the analysis hours
- traffic operations
- safety
- transit service

ROADWAY CONDITIONS

Roadway conditions describe Route 117, Jungle Road and Old Mill Road.

TRAFFIC VOLUMES

Traffic volumes include:

- a seven-day automatic traffic recorder (ATR) count on Route 117 west of I-190
- a seven-day ATR count on Jungle Road south of Route 117
- turning-movement counts including analysis hours at study-area intersections
- comparisons of existing traffic volumes with projected traffic volumes prepared by Vanasse & Associates, Inc. on behalf of New England Development (NED) in the December 2005 Single Environmental Impact Report for the Leominster mixed-use project (EOEA 13003)
- pedestrian and bicycle traffic

TEPP LLC comments that the ATR counts are for seven days, compared to the more typical two-to-three days. The daily volumes are within the expected range for these roads in this area.

TRAFFIC OPERATIONS

Traffic operations are described below (on pages 8 and 9 of this memorandum under Traffic Operations for All Conditions).

SAFETY

Safety includes:

- 2008 to 2010 crash history from the Massachusetts Department of Transportation (MassDOT) for the intersections and road segments
- crash type, severity, weather and time
- observed average crash rates for the intersections and road segments
- MassDOT District 3 average crash rates

TEPP LLC comments that this crash history does not show a significant safety issue that the proposed gaming facility is likely to exacerbate. TEPP LLC anticipates that the Jungle Road/proposed driveway intersections and other road modifications will be designed to provide for appropriate safety.

TRANSIT SERVICE

Transit service includes Montachusetts Regional Transit Authority Bus Route 9 between down-town Leominster and Walmart.

FUTURE NO-BUILD CONDITIONS

OVERVIEW

The TIS includes the following for future no-build conditions:

- site-specific traffic growth
- background traffic-growth rate
- assumed no-build transportation-system improvements
- 2020 no-build traffic volumes for the analysis hours

TRAFFIC GROWTH

Site-specific traffic growth consists of completion of the NED Leominster mixed-use project, which includes:

- development of the area south of Route 117 opposite Lowe's
- driveway to the Route 117/Lowe's driveway signalized intersection
- a vehicular connection to the Walmart shared driveway

The background traffic-growth rate is one percent per year.

TEPP LLC comments that considering completion of the NED Leominster mixed-use project as part of background traffic growth is appropriate.

The background traffic-growth rate of one percent per year is reasonble.

The site north of Route 117 opposite Jungle Road is currently under redevelopment. The redevelopment's Environmental Notification Form (ENF, EEA 14972) was noticed in *The Environmental Monitor* on November 7, 2012.

The ENF states that the redevelopment includes:

- **a convenience store**
- **a gasoline and diesel fuel sales facility**
- **a food drive-through**
- **a quick-service restaurant**
- **an east signalized driveway to Route 117 opposite Jungle Lane**
- **a west unsignalized driveway to Route 117**

TEPP LLC notes that the ENF states that

- **the redevelopment is anticipated to have negligible impacts at the Route 117/I-190 southbound ramps signalized intersection**
- **the redevelopment is anticipated to have negligible impacts at the Route 117/I-190 northbound ramps signalized intersection**
- **the project is not expected to drop overall LOS at the Route 117/Jungle Road signalized intersection**

TEPP LLC comments that:

- **the ENF does not indicate a significant anticipated traffic impact to the area due to the redevelopment**
- **actual traffic counts with the redevelopment in operation may be used in design of transportation-system improvements**

TRANSPORTATION-SYSTEM IMPROVEMENTS

Assumed no-build transportation-system improvements are conjunction with completion of the NED Leominster mixed-use project described above (on pages 5 and 6 of this memorandum under Traffic Growth).

TEPP LLC comments that these improvements should benefit area traffic operations.

FUTURE BUILD CONDITIONS

OVERVIEW

The TIS includes the following for future build conditions:

- selection of analysis hours
- site-generated traffic volumes
- trip-generation comparisons
- trip distribution
- assumed build transportation-system improvements
- 2020 build traffic volumes for the analysis hours
- traffic increases

SELECTION OF ANALYSIS HOURS

Selection of analysis hours is described above (on pages 2 and 3 of this memorandum under Analysis Hours).

SITE-GENERATED TRAFFIC VOLUMES

The TIS shows the proposed gaming facility with 1,400 gaming positions including 1,250 slot machines. The Institute of Transportation Engineers does not publish trip-generation information for slot parlors in *Trip Generation Manual*, 9th Edition (Washington DC, 2012).

Therefore, the TIS derives trips per gaming position based on November 2010 traffic counts at the Sugarhouse Casino in the City of Philadelphia, Pennsylvania. The TIS:

- reports that the Sugarhouse Casino is similar to the proposed facility in that it has very limited floor area not dedicated to gaming uses
- uses November 2010 traffic counts at the Sugarhouse Casino

- increases trips per gaming position to reflect busier summer conditions and 100 percent automobile use, as opposed to public-transportation use

The TIS site-generated traffic volumes are:

- for the weekday PM commuter peak hour, 504 trips (0.36 trips per each of the 1,400 gaming positions)
- for the Saturday late-afternoon hour 532 (0.38 trips for each of the 1,400 gaming positions)

TEPP LLC conferred with Stantec about the availability of additional data and information on site-generated traffic. Stantec provided additional updated data and information in the attached September 10, 2013 Stantec letter.

The September 10, 2013 Stantec letter derives trips per gaming position based on November 2010, May 2013 and June 2013 counts at the Sugarhouse Casino. The trips per gaming position in the September 10, 2013 Stantec letter are 20 percent greater than in the TIS. The revised site-generated traffic volumes are:

- for the weekday PM commuter peak hour, 602 trips (0.43 trips per each of the 1,400 gaming positions)
- for the Saturday late-afternoon hour, 644 trips (0.46 trips for each of the 1,400 gaming positions)

TEPP LLC comments that site-generated traffic volumes are based on traffic counts at a comparable gaming facility over multiple time periods.

TRIP DISTRIBUTION

The TIS uses a market analysis and other factors to distribute site-generated traffic as follows:

- to/from I-190 north, 60 percent
- to/from I-190 south, 20 percent
- to/from Route 117 east, 10 percent
- to/from Route 117 west, 9 percent
- to/from Old Mill Road west, 1 percent

TEPP LLC comments that it is reasonable to assume that most site-generated traffic will use I-190, as the TIS states.

The TIS assumes the following build transportation-system improvements:

- at the Route 117/Jungle Road signalized intersection, providing overhead-lane use signs over the double-left-turn lane on the Route 117 westbound approach, to place vehicles destined for Jungle Road (as opposed to Walmart shared driveway) in the left of the two lanes
- at the Jungle Road/Walmart shared driveway unsignalized intersection, providing signalization

TEPP LLC provides comments below (on page 9 of this memorandum under Recommendations).

TRAFFIC OPERATIONS FOR ALL CONDITIONS

The TIS, in combination with the September 10, 2013 Stantec letter, present traffic operations for the following analysis conditions for the analysis hours:

- 2013 existing
- 2020 no-build
- 2020 build with site-generated traffic per the TIS
- 2020 build with site-generated traffic increased by 20 percent per the September 10, 2013 Stantec letter

Traffic operations results, in September 10, 2013 Stantec letter Table 1, include levels of service (LOS), delays and volume/capacity (V/C) ratios calculated for study-area intersections.

TEPP LLC comments that September 10, 2013 Stantec letter Table 1 shows:

- **for the Route 117/Lowe's driveway signalized intersection, overall LOS B to C, representing low-to-moderate delays**
- **Route 117/Jungle Road signalized intersection, overall LOS B to C, representing low-to-moderate overall delays**
- **for the Route 117/I-190 southbound ramps signalized intersection, overall LOS B to C, representing low-to-moderate overall delays**
- **for the Route 117/I-190 northbound ramps signalized intersection, overall LOS B to C, representing low-to-moderate overall delays**
- **for the Jungle Road/Walmart shared driveway intersection, signalized under the 2020 build condition, overall LOS B, representing low-to-moderate overall delays**
- **for the Jungle Road/Walmart shared driveway intersection, unsignalized under the 2013 existing and 2020 no-build conditions, LOS B, representing low delays**

- **for the Jungle Road/Walmart south driveway unsignalized intersection, LOS B to C, representing low-to-moderate delays**
- **for the Jungle Road/Old Mill Road unsignalized intersection, LOS B to D, representing low-to-moderate delays**
- **for the Old Mill Road/Berrington Road condominium driveway unsignalized intersection, LOS A, representing low delays**
- **only minor differences in results with TIS site trips versus September 10, 2013 Stantec letter site trips, which are 20 percent-greater**

RECOMMENDATIONS

The TIS presents the following mitigation measures:

- at the Route 117/Jungle Road signalized intersection, providing overhead-lane use signs over the double-left-turn lane on the Route 117 westbound, to place vehicles destined for Jungle Road (as opposed to Walmart shared driveway) in the left of the two lanes
- at the Jungle Road/Walmart shared driveway intersection, providing signalization

TEPP LLC comments that alternatives to signalization of the Jungle Road/Walmart shared driveway intersection may be available and that signalization must be justified. In particular, the proposed driveway to Route 117 opposite Lowe's may reduce the need or justification for signalization of the Jungle Road/Walmart shared driveway intersection.

The TIS presents the following additional actions that will be pursued as the project is developed to further enhance area traffic operations:

- at the Route 117/Jungle Road signalized intersection, modify channelization, markings and signs to "tighten up" the intersection
- at the Route 117/I-190 southbound ramps signalized intersection, working with MassDOT to design modifications to geometry and/or traffic control to reduce existing weekday AM-peak-hour congestion and potential future queuing issues
- at the Route 117/I-190 northbound ramps signalized intersection, working with MassDOT to design modifications to geometry and/or traffic control to eliminate the split signal phasing that prohibits simultaneous Route 117 eastbound and westbound approach movements
- at the Jungle Road/Walmart south driveway unsignalized intersection, widening Jungle Road to provide two northbound lanes
- at the Jungle Road/Mill Road unsignalized intersection, widening Jungle Road to provide two northbound lanes

- coordinating with NED to complete the proposed vehicular connection between Walmart and the Route 117/Lowe's driveway signalized intersection

TEPP LLC comments that these additional actions may provide opportunities to further enhance area traffic operations, with potential benefits to traffic associated with the proposed gaming facility as well as other area traffic.

The TIS presents the following actions that to promote trips by modes other than automobile:

- reconstructing Jungle Road north of the project site to include shoulders at least four feet wide, for bicycle traffic, and to include a sidewalk, for pedestrians
- working with the local transit provider to extend bus service to the gaming facility entrance
- providing a shuttle-bus connection to the Leominster commuter rail station and downtown destinations
- providing on-site facilities for charter-bus drop-offs, pick-ups and parking

TEPP LLC comments that these actions may promote travel by modes other than automobile, including bicycle, pedestrian, transit and bus travel.

TEPP LLC anticipates that the Jungle Road/proposed driveway intersection will be designed to provide for appropriate sight distance.

The scope of the TIS generally reflects applicable professional practice for a development of its trip generation.

CONCLUSION

In summary:

- the study area is adequate in terms of applicable professional practice
- the analysis conditions are adequate in terms of applicable professional practice
- the analysis hours are adequate in terms of applicable professional practice
- the TIS includes seven-day ATR counts, compared to the more typical two-to-three days
- crash history does not show a significant safety issue that the proposed gaming facility is likely to exacerbate
- TEPP LLC anticipates that the Jungle Road/proposed driveway intersections and other road modifications will be designed to provide for appropriate safety

- considering completion of the NED Leominster mixed-use project is appropriate as part of background traffic growth is appropriate
- the background traffic-growth rate of one percent per year is reasonable
- the site north of Route 117 opposite Jungle Road is currently under redevelopment, but the redevelopment's ENF does not indicate a significant traffic impact to the area and actual traffic counts with the redevelopment in operation may be used in design of transportation-system improvements
- transportation-system improvements in conjunction with completion of the NED Leominster mixed-use project should benefit overall area traffic operations
- site-generated traffic volumes for the proposed gaming facility are based on traffic counts at a comparable gaming facility over multiple time periods
- trip distribution for the proposed gaming facility uses a market analysis and it is reasonable to assume that most site traffic will use I-190
- operations analysis shows overall low-to-moderate delays for the study area
- operations analysis shows only minor differences with TIS site trips versus September 10, 2013 Stantec letter site trips

The TIS and September 10, 2013 Stantec letter indicate the overall traffic-impact feasibility of the proposed gaming facility. TEPP LLC anticipates additional traffic analysis and design as the project goes through City and Commonwealth of Massachusetts permitting and associated traffic mitigation and enhancements are developed.

The proposed gaming facility is also under review by the Commonwealth, pursuant to the Massachusetts Environmental Policy Act (MEPA). The project's ENF (EEA 15087) was noticed in *The Environmental Monitor* on August 7, 2013. The Secretary of Energy and Environmental Affairs issued the Certificate on the ENF on September 6, 2013.

The Certificate on the ENF:

- sets forth a Mandatory Environmental Impact Report (EIR)
- sets forth the scope of the Draft EIR (EIR), including traffic and transportation
- has attached comments from MassDOT

Woodard & Curran, Inc. has reviewed the TIS on behalf of the City and separate from the MEPA process. TEPP LLC's comments are generally consistent with the Certificate on the ENF. However, the Certificate on the ENF does require that a larger scope of traffic analysis be performed as part of the MEPA process.

attachment: September 10, 2013 Stantec Consulting Services, Inc. letter

September 10, 2013
File: 210801067

Attention: Kim Hazavartian, Ph.D., P.E., PTOE
TEPP LLC
93 Stiles Road, Suite 201,
Salem, New Hampshire 03079

Dear Kim,

Reference: Live! Casino Jungle Road, Leominster, MA

Per our recent telephone conversation, Stantec completed a sensitivity analysis regarding the traffic impact evaluation conducted for the above referenced project and presented in our August 15, 2013 traffic impact study. Specifically, we conducted new "Build" condition intersection operations analyses assuming trip generation rates for the proposed slot facility that are 20 percent higher than those assumed in the August study. Based on the updated analysis we conclude that even with the higher trip rates, the roadway system will have adequate capacity to safely accommodate projected slot facility traffic demands.

Trip Generation Rates

Traffic forecasts for the proposed slot facility used in the August study are based on traffic counts done at the Sugarhouse Casino in Philadelphia, Pennsylvania in November 2010. The trip generation rates derived from this data considered seasonal variations in casino patronage and the use of alternative modes to access the site. From this analysis it was assumed that the proposed slot facility would generate 0.36 vehicle trips per gaming position during the Friday, 5-6 PM, adjacent street peak hour and 0.54 vehicle trips per gaming position during the Saturday, 9-10 PM hour, site peak traffic hour.

Stantec was able to obtain new traffic counts taken at the Sugarhouse Casino in 2013. The data, attached, were collected on Friday, May 31, 2013 and on Saturday, June 22, 2013. During the Friday 5-6 PM hour the Sugarhouse Casino generated 836 vehicle trips in May 2013 and generated 977 vehicle trips during the Saturday evening site peak hour, 8-9 PM. These counts were increased by six percent to account for the use of n0n-auto travel modes similar to the adjustments made to the November 2010 data. No adjustments were made to the 2013 data to account for seasonal variations given the time of year that the counts were taken. Adjusted trip rates for the Sugarhouse Casino are 0.44 trips per gaming position during the Friday commuter peak hour and 0.52 trips per gaming position during the Saturday site peak hour. A comparison of adjusted trip rates for November 2010 and summer 2013 shows a 22 percent increase for the Friday commuter peak hour and a four percent decrease for the Saturday site peak hour. Based on these results, a 20 percent increase in trip rates was assumed for the sensitivity analysis. The assumed Friday commuter peak hour trip rate was 0.43 trips pre gaming position and the Saturday 5-6 PM trip rate was 0.46 trips per gaming position.

Operations Analysis

Trip generation estimates for the proposed 1250-machine slot facility using the higher trip rates were assigned to the roadway system in accordance with the procedures described in our August study.

Reference: Live! Casino Jungle Road, Leominster, MA

Similarly, intersection operations analyses were conducted for the updated Build traffic flow networks. The intersection capacity analysis results for the "August Build" and "September Build" conditions are shown in Table 1. As shown, the assumed higher trip generation rates for the proposed slot facility result in slightly higher intersection peak hour volume-to-capacity ratios at the study area intersections. However, even with the higher volumes, all intersections continue to operate at Level of Service D or better. The highest volume-to-capacity ratio at any of the signalized intersections in the study area is only 0.82, still well below the maximum capacity of the intersection.

Summary

The above analysis demonstrates that there is sufficient reserve capacity on the roadway system serving the Live! Casino site to readily accommodate anticipated site generated traffic. While the new analysis considers trip generation rates that are 20 percent higher than those used in the original study, the original study traffic forecasts may still be valid. The proposed slot-facility will in fact offer more limited gaming options to patrons, (no table games are permitted), than the Sugarhouse facility and therefore will appeal to a more limited demographic. As such, the actual trip rates at the proposed slot facility may be lower than those experienced at the Sugarhouse Casino.

If you have any questions regarding the above or require further information regarding the Live! Casino proposal please do not hesitate to contact us.

Regards,

Stantec Consulting

Richard S. Bryant
Senior Project Manager
Phone: 802 864 0223 x174
Fax: 802 864 0165
Richard.Bryant@stantec.com

Attachment: Trip Generation Data

c. Jeff Snyder-Cordish, Bob Corning-Stantec

rb u:\210801031\leominster - jungle road\design\traffic\report\2013-09-10_keh ltr.docx

Reference: Live! Casino Jungle Road, Leominster, MA

	Peak Hour	Existing (2012)			Future (2020) No-Build			Future (2020) Build			Future (2020) Build + 20%		
		LOS[1]	Delay[2]	V/C[3]	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C
Unsignalized Intersections													
Jungle Road / Shared Driveway													
Weekday PM		B	12.0	0.18	B	12.0	0.18	See signalized			See signalized		
Saturday PM		B	11.0	0.14	B	11.0	0.14	See signalized			See signalized		
Jungle Road / Walmart Driveway													
Weekday PM		B	14.3	0.42	B	14.3	0.42	D	34.4	0.63	D	33.3	0.55
Saturday PM		B	11.0	0.27	B	11.0	0.27	D	29.5	0.62	D	33.2	0.62
Jungle Road / Old Mill Road													
Weekday PM		A	9.5	0.10	A	9.5	0.10	C	15.4	0.22	C	17.6	0.25
Saturday PM		A	9.0	0.06	A	9.0	0.06	B	14.1	0.13	C	15.9	0.15
Jungle Road / Site Driveway													
Weekday PM		-	-	-	-	-	-	A	9.7	0.29	B	10.1	0.35
Saturday PM		-	-	-	-	-	-	A	9.6	0.28	A	10.0	0.34
Old Mill Road / Berrington Road													
Weekday PM		A	9.7	0.04	A	9.7	0.04	A	9.7	0.04	A	9.7	0.04
Saturday PM		A	9.0	0.02	A	9.0	0.02	A	9.1	0.03	A	9.1	0.03
Signalized Intersections													
Route 117 / I-190 NB Ramps													
Weekday PM		B	18.0	0.48	B	18.3	0.55	B	19.7	0.63	C	20.0	0.65
Saturday PM		C	22.5	0.28	B	19.6	0.34	C	21.2	0.43	C	21.3	0.44
Route 117 / I-190 SB Ramps													
Weekday PM		B	14.4	0.40	B	15.9	0.53	B	19.8	0.61	C	21.2	0.62
Saturday PM		B	14.7	0.30	B	14.6	0.36	B	16.4	0.45	B	17.8	0.47
Route 117 / Jungle Road													
Weekday PM		C	20.5	0.48	C	28.0	0.67	C	31.9	0.79	C	32.0	0.82
Saturday PM		B	17.9	0.34	C	25.0	0.49	C	25.6	0.64	C	24.5	0.68
Jungle Road / Shared Driveway													
Weekday PM		See unsignalized			See unsignalized			B	12.9	0.70	B	13.3	0.79
Saturday PM		See unsignalized			See unsignalized			B	11.7	0.57	B	11.8	0.63
Route 117 / Lowes Driveway													
Weekday AM		A	10.0	0.41	B	19.8	0.49	C	24.4	0.50	C	24.5	0.50
Saturday PM		B	12.1	0.32	C	23.7	0.38	C	23.9	0.39	C	24.0	0.39

Table 1, Intersection Operations Analysis Results

Traffic Count Summary at SugarHouse Casino
Friday, May 31, 2013 and Saturday June 22, 2013

Count Date: Friday, May 31, 2013 2010 Gaming Positions

Suger House Casino Groups: Cars, Taxis, Buses and Shuttles													
Time Period		South Casino Driveway			Main Casino Driveway			North Casino Driveway			Casino Total		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Friday 5-31-2013	4:00 PM	22	14	36	46	46	92	47	66	113	115	126	241
	4:15 PM	23	10	33	40	35	75	32	45	77	95	90	185
	4:30 PM	20	17	37	46	36	82	31	48	79	97	101	198
	4:45 PM	18	16	34	55	46	101	6	51	57	79	113	192
	5:00 PM	24	18	42	46	38	84	39	55	94	109	111	220
	5:15 PM	22	9	31	36	44	80	42	46	88	100	99	199
	5:30 PM	19	12	31	40	28	68	43	42	85	102	82	184
	5:45 PM	16	17	33	62	39	101	47	52	99	125	108	233
	6:00 PM	15	15	30	44	45	89	38	46	84	97	106	203
	6:15 PM	30	16	46	57	36	93	54	59	113	141	111	252
	6:30 PM	15	17	32	45	37	82	26	52	78	86	106	192
	6:45 PM	20	12	32	32	35	67	56	49	105	108	96	204
	BREAK												
	8:00 PM	25	15	40	45	57	102	34	80	114	104	152	256
	8:15 PM	18	15	33	42	49	91	36	52	88	96	116	212
	8:30 PM	19	17	36	54	39	93	47	42	89	120	98	218
	8:45 PM	19	17	36	51	50	101	27	46	73	97	113	210
	9:00 PM	16	19	35	45	37	82	32	66	98	93	122	215
	9:15 PM	17	14	31	47	37	84	26	37	63	90	88	178
	9:30 PM	15	21	36	53	39	92	39	37	76	107	97	204
	9:45 PM	12	21	33	57	57	114	31	48	79	100	126	226
	10:00 PM	14	15	29	59	44	103	44	49	93	117	108	225
	10:15 PM	14	12	26	47	65	112	36	43	79	97	120	217
	10:30 PM	28	18	46	51	70	121	30	50	80	109	138	247
	10:45 PM	36	12	48	49	54	103	25	42	67	110	108	218

Friday Street Peak	
4:00-5:00	816
4:15-5:15	795
4:30-5:30	809
4:45-5:45	795
5:00-6:00	836
5:15-6:15	819
5:30-6:30	872
5:45-6:45	880
6:00-7:00	851

Trip Type Breakdown Friday Street Peak: 5:45 - 6:45		
Vehicle	Total	% of Total
Cars	804	91.4%
Taxis	67	7.6%
Buses	6	0.7%
Shuttles	3	0.3%
Total	880	100.0%

Friday Casino Peak	
8:00-9:00	896
8:15-9:15	855
8:30-9:30	821
8:45-9:45	807
9:00-10:00	823
9:15-10:15	833
9:30-10:30	872
9:45-10:45	915
10:00-11:00	907

Trip Type Breakdown Friday Casino Peak: 9:45 - 10:45		
Vehicle	Total	% of Total
Cars	787	86.0%
Taxis	123	13.4%
Buses	3	0.3%
Shuttles	2	0.2%
Total	915	100.0%

Count Date: Saturday, June 22, 2013

Suger House Casino Groups: Cars, Taxis, Buses and Shuttles													
Time Period		South Casino Driveway			Main Casino Driveway			North Casino Driveway			Casino Total		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Friday 5-31-2013	8:00 PM	42	29	71	45	49	94	40	84	124	127	162	289
	8:15 PM	29	20	49	50	37	87	41	52	93	120	109	229
	8:30 PM	30	25	55	61	43	104	38	54	92	129	122	251
	8:45 PM	22	24	46	37	47	84	34	44	78	93	115	208
	9:00 PM	17	34	51	55	38	93	38	43	81	110	115	225
	9:15 PM	23	21	44	36	38	74	20	55	75	79	114	193
	9:30 PM	20	18	38	44	29	73	38	27	65	102	74	176
	9:45 PM	32	26	58	43	37	80	40	43	83	115	106	221
	10:00 PM	36	17	53	45	60	105	25	40	65	106	117	223
	10:15 PM	28	33	61	44	55	99	32	66	98	104	154	258
	10:30 PM	22	24	46	49	64	113	28	75	103	99	163	262
	10:45 PM	20	14	34	35	60	95	27	73	100	82	147	229

Saturday Casino Peak	
8:00-9:00	977
8:15-9:15	913
8:30-9:30	877
8:45-9:45	802
9:00-10:00	815
9:15-10:15	813
9:30-10:30	878
9:45-10:45	964
10:00-11:00	972

Trip Type Breakdown Saturay Casino Peak: 8:00 - 9:00		
Vehicle	Total	% of Total
Cars	889	91.0%
Taxis	83	8.5%
Buses	3	0.3%
Shuttles	2	0.2%
Total	977	100.0%

Trip Type Breakdown TOTAL		
Vehicle	Total	% of Total
Cars	2480	89.5%
Taxis	273	9.8%
Buses	12	0.4%
Shuttles	7	0.3%
Total	2772	100.0%